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Industrial Policy and Environmental Sustainability: The Challenge After COP15

Wim Naudé and Ludovico Alcorta

Industrial policy is being reassessed in the light of the global financial crisis as well as the negotiations on a global agreement on the reduction of greenhouse gases – the fifteenth United Nations Climate Change Conference (COP15) which took place in December 2009 in Copenhagen. This conference took place against the concern (as the UN's climate panel's recent fourth report indicates) that human society is contributing significantly, through emission of greenhouse gases, to global warming, and that this will have an overall negative impact on global development. Kemal Derviş, in his WIDER Annual Lecture presented in Helsinki in March 2008, pointed out. '*Climate change will have a larger and more immediate negative impact on many of the world's poor. Our concern for development and poverty reduction, as captured in the Millennium Development Goals, dictates that we mitigate climate change urgently to reduce the threats to the development prospects of the most vulnerable, as well as take action to help those already affected to adapt.*'

Human-induced climate change and its effects on global development is part of the more general challenge of achieving environmental sustainability. It requires a rethink of the process and outputs of production and of distribution and consumption. As recently put by Jeff Sachs[i] 'The global economy is literally unsustainable now and cannot absorb further economic and population growth without serious risks of global destabilization – even collapse'. In addition to rising greenhouse gas emissions and its consequences, areas of concern include rising commodity prices, peak oil, pollution from agriculture, and increasing water scarcity to name but a few.

Reassessing industrial policy is now necessary as (i) industrialization and industrial catch-up by industrially lagging countries will increasingly run into resource constraints and climate change impacts, and (ii) without appropriate forms of industrialization in both advanced economies and in developing countries, little progress will be made towards any agreement to replace the Kyoto Protocol. The Gordian Knot to be untied is how to achieve these changes in a manner that does not limit the development and industrial catch-up of the poorest countries, and which does not result in politically unacceptable job losses in advanced economies.

Industrial policies – whether explicitly termed as such or referred to as 'competitiveness' policies – will increasingly take centre stage in governments' responses as they grapple with rising commodity prices, growing inequality and sluggish growth. But given the dangers and failings inherent in industrial policy, extreme caution is required. Hence a new debate on industrial policy, supported by new research and new paradigms, is required to move forward. In recognition of this challenge, UNU-WIDER, UNU-MERIT and UNIDO held a successful workshop on the topic in Maastricht, The Netherlands on 22-23 October. Following this workshop, we outline a number of considerations for environmentally sustainable industrial policies in this article.

Industrialization still matters

Our point of departure is that industrialization still matters. In particular, shifts out of traditional, low-productivity

activities towards manufacturing and later services and out of low technology towards high technology activities within manufacturing are stylized facts of modern development. Very few advanced economies have not gone through such processes of structural change.

There are a number of reasons why manufacturing contributes to development. In an earlier WIDER Angle article, Szirmai examined nine arguments for the importance of manufacturing for growth. One of the most important, also with respect to the current debate on the impact of climate change on developing countries, is that the manufacturing sector offers special opportunities for both embodied and disembodied technological progress. Technological advance is concentrated in the manufacturing sector and diffuses from there to other economic sectors such as the service sector. Though technological advance in service sectors continues to accelerate, this aspect of manufacturing continues to be very important for developing countries engaged in catch up. It is generally recognized that environmentally sustainable catch-up will now require more of technological advances in leading economies to be transferred to and adopting by countries in the catch-up phase. Herein, the role of industrial policy is necessary, and as such the comeback that industrial policy is starting to make may be welcomed.

Industrial Policy Moving to the Forefront

Industrial policy refer to the intervention of governments to direct the structural development of their economies, from low to high productivity activities associated with economic growth, job creation and rising per capita incomes. Industrial policy has deep precedents. The very Industrial Revolution which heralded the modern world has been described as the result of the 'mother of all industrial policies'[ii]. But it was more after the Second World War, with the reconstruction of Europe and Japan and the gaining of independence of many countries in Africa, Asia and Latin America, that industrial policy concerns became an explicit and central part of the development agenda – at first especially through the protection of infant industries through import tariffs and quotas. The strength of the theoretical case for selective government intervention in steering such structural development has long since been recognized: both market and co-ordination failures, as well as the need to sometimes deliberately create market failures to defy a country's (static) comparative advantage imply that industrial catching up will not be automatic. As endogenous growth theory established, technological innovation provides a major stimulus for productivity growth. However, neither such innovation nor the transfer of technological know-how is automatic or easy – it requires absorptive capacity in lagging countries or regions which often requires firm and industry-specific learning by doing, as well as investment in human capital that will as result of market failures be at less than optimum levels.

Industrial policy is now recognized, despite the inconclusiveness of empirical studies and the absence of counterfactuals) to have played an important role not only in the Industrial Revolution in Britain in the 17th and 18th centuries, and in the USA in the 19th and 20th, but also in East Asia in the 20th and currently in the rise of China. It is seen as having had mixed success in Latin America, and as having failed in Sub-Sahara Africa (with some exceptions in Mauritius and South Africa). By the late 1970s and 1980s mainstream economic thinking, and the policy advocacy by international development organizations and donors, turned extremely skeptical of industrial policy. The main reason was that the practicality of industrial policy was being doubted. The problem was one of government failure: of governments not being able to have access to all the information in order to assess whether a particular intervention will be welfare enhancing or not, and being susceptible to rent-seeking, capture and corruption in the process of selectivity. During much of the 1980s and 1990s 'industrial policy' in many countries were replaced by trade and financial liberalization, the privatization of state-owned enterprises, and the harmonization and minimization of government policies towards improving the general 'competitiveness' of their economies, under the banner of the Washington Consensus.

Now, industrial policy is moving to the forefront – or at least in some circles coming more into the open. This is perhaps nowhere more apparent than in the United States, where despite its long history of fostering industry in a developmental state (see Bill Lazonick's article in the WIDER Angle April 2009), industrial policy experienced

strong ideological resistance especially since the Reagan administration years of the 1980s. Now, it is clear that the deregulation and laissez-faire approach of the past decades has in fact been a *de facto* form of industrial policy which had shifted jobs and profits into the financial sector and out of the manufacturing sector. This has been made clear by the financial crisis which erupted in September 2008, following which the USA have resorted to various measures commonly associated with industrial policy to rectify the situation, such as direct subsidies to ailing firms (bank and automobile manufacturing firms being bailed out), import protection (e.g. the imposition on tariffs on tire imports), and domestic content measures (the 'buy American' clause in the Recovery Act).

The global inequities re-emphasized by the financial crisis and subsequent global economic slowdown has also cast the spotlight again on the failure of much of the least development countries (such as those in Africa) to industrialize. This failure to industrialize and diversify their economies' structure has been an important source of vulnerability to these countries. In the renewed debate about the need to reduce these, the fact that financial liberalization has gone too far, to rapidly, has been accepted. Also now there is the concern that trade liberalization and privatization did not aid industrialization in Africa, but have likely contributed to de-industrialization in the continent. There is little evidence on the success of privatization, and growing evidence that it has worsened inequalities. And rent-seeking and corruption flourished even in the absence of selective industrial policies.

But there is one further and important reason for industrial policy to be moving to the forefront. That is the challenge of environmentally sustainability – in particular, of climate change. The nature of climate change and the responses required contains all the elements of market and coordination failure, and the dangers of government failure, that has been central to the debate on industrial policy.

Moving to a low-carbon, low environmental impact world economy is going to require selective government intervention. It has to be selective, as neutrality towards all products and processes cannot be maintained. It has got to be driven by governments as coordination, subsidization, protection, information and large scale investments are at the core of the responses towards limiting the human impact on climate change.

The need for making the right choices will become even more apparent as the world's population increases to more than 9 billion people by 2050. A growing population with increasing purchasing power will demand new and more products and ways of making them that will not only have a heavy toll on the environment but will also put heavy pressure on the availability of natural resources to produce them. The recent financial crisis was preceded by severe difficulties in the world supply of food and acute volatility and rises in the price of oil (for a good overview of the 'Triple crises' see the recent WIDER Working Paper 2010/01 by Addison, Arndt, and Tarp). If there are no international and domestic concerted efforts for manufacturing to become more resource efficient, larger populations, which are expected to be located mainly in the developing world, will only lead to further reductions in arable land, deforestation, overfishing, land pollution and water shortages.

Hence, with the eminent resurgence of industrial policy and the dangers involved, it is encouraging that international development agencies, donors, academic and leading advanced economies, have started to actively debate the issue of what industrial policies should look like in the future and what configuration of institutional and political settings are needed to ensure better policies. For instance in the last quarter of 2009 the World Bank, the United Nations University, UNIDO as well as the German Development Institute hosted workshops on industrial policies. Also, the European Trade Union Confederation adopted a resolution in October 2009 calling for an 'urgent need to launch the 3rd European industrial revolution based on green, sustainable and decent jobs'. And in the USA, President Obama proposed during his presidential campaign an industrial plan to create around 5 million 'green collar' jobs, while the media today is carrying a growing number of debates about the need for a US industrial policy, particularly towards 'green manufacturing'.

Considerations for Environmentally Sustainable Industrial Policy

Having dealt with the need for industrialization, and the resurgence or inevitability of industrial policies, the

question arises as to the content of such policies, as well as the implementation and management thereof. Here we cannot offer any definitive answers. Successful industrial policies require both proper *content,* i.e. the policies should be addressing the appropriate binding constraints on industrial change, as well as *implementation*. Both depend on the particular conditions of individual countries as it is clear that 'one size fits all' policies are not effective as well as appropriate institutional settings to ensure that governments have the information, the capability, that political interference is limited, and that incentives are properly aligned. Many countries lack an adequate institutional setting, and may get both the content and implementation wrong. Moreover, the particular challenges which environmental and resource sustainability raise for industrialization would require a perhaps unprecedented degree of global coordination. These factors could understandably jeopardize any attempt at reaching any goals which may be agreed upon in any climate change agreement – indeed the very difficulties implied here may contribute to the reluctance of many of the poorest countries to agree to binding goals in the first place. Hence advancing our understanding of the process of industrial policy formation and its success and failure within the current global context remain one of the most important challenges facing researchers and policy makers.

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Notes

[i] Sachs, J.D. (2009). 'An Industrial Policy for Climate Change', *McKinsey What Matters*, at http://whatmatters.mckinseydigital.com, 23 February.

[ii] See Robinson, J. A. (2009). 'Industrial Policy and Development: A Political Economy Perspective', *Paper prepared for the 2009 World Bank ABCDE Conference*, Seoul, Korea, 22-24 June.

Challenges and Emerging Paradigms.

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